CODE ALARM

PROFESSIONAL SERIES

Automatic / Manual Transmission Remote Start with Keyless Entry Installation Guide for models:

ca5153

ca5153sst

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4280476

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BEFORE YOU BEGIN

PROFESSIONAL INSTALLATION
STRONGLY RECOMMENDED

Installation Precautions:

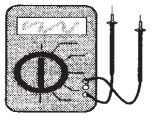
Roll down window to avoid locking keys in vehicle during installation

Avoid mounting components or routing wires near hot surfaces

Avoid mounting components or routing wires near moving parts

Tape or loom wires under hood for protection and appearance

Use grommets when routing wires through metal surfaces



Use a Digital Multi Meter for testing and verifying circuits. DO NOT USE A TEST LIGHT, OR "COMPUTER SAFE PROBE" as these can set off air bags or damage vehicle computers.

Technical Support (800) 421-3209
or go to
http://techservices.codesystems.com

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11 Pin Main Harness

11 PIN MAIN	1	GRAY/RED	PARKING BRAKE INPUT (-)
	2	PURPLE	DOOR INPUT (+)
	3	GREEN	DOOR INPUT (-)
	4	BLACK/WHITE	ILLUMINATED ENTRY OUTPUT (-)
	5	BROWN/BLACK	HORN OUTPUT (-)
	6	RED/WHITE	TRUNK RELEASE OUTPUT (-)
	7	BLUE/BLACK	START STATUS / ACTIVE OUTPUT (-)
	8	PURPLE/WHITE	TACH INPUT
	9	GRAY	HOOD PIN INPUT (-)
	10	BROWN/RED	BRAKE INPUT (+)
	11	VIOLET/BLACK	AUX 1 OUTPUT (-)

3 Pin Parking Light Harness

3 PIN LIGHTS	1	BLACK	GROUND
	2	WHITE/RED	PARKING LIGHT INPUT
	3	WHITE	PARKING LIGHT OUTPUT

6 Pin Start Harness

6 PIN START	1	PURPLE	STARTER OUTPUT - MOTOR SIDE
	2	RED	BATTERY 12V (+)
	3	ORANGE	ACCESSORY 1 (+)
	4	PINK/WHITE	IGNITION 2 (+)
	5	RED/WHITE	BATTERY 12V (+)
	6	PINK	IGNITION 1 (+)

4 Pin Alternate Harness

4 PIN ALTERNATE OUTPUT	1	BLACK/YELLOW	PULSE DURING CRANK (-)
	2	GREEN/WHITE	PULSE AFTER SHUTDOWN (-)
	3	LT BLUE	FACTORY ARM / PULSE AFTER START (-)
	4	LT GREEN/BLACK	FACTORY DISARM / PULSE BEFORE START (-)

2 Pin Door Lock Harness

2 PIN LOCK	1	BLUE	UNLOCK (-)
	2	GREEN	LOCK (-)

11 Pin Main Harness

1	GRAY/RED	PARKING BRAKE INPUT (-)

Locate the vehicle's parking brake wire.

Verification: This wire will register ground when the vehicle's PARKING BRAKE is engaged.

NOTE: The following connection is required for Manual Transmission Mode.

2	PURPLE	DOOR TRIGGER INPUT (+)

Locate the vehicle's dome light or door pin switch wire.

Verification: This wire will register positive voltage (POS) when the door is opened and the interior light is on. This wire will register ground or "0" Volts when the door is closed and the interior light is off.

Connect the PURPLE wire to the vehicle's positive door input wire(s).

NOTE: Certain vehicles may require multiple connections. Refer to vehicle application guide.

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3	GREEN	DOOR TRIGGER INPUT (-)

Locate the vehicle's dome light or door pin switch wire.

Verification: This wire will register ground (NEG) when the door is opened and the interior light is on. This wire will register positive voltage when the door is closed and the interior light is off.

Connect the GREEN wire to the vehicle's negative door input wire(s).

NOTE: Certain vehicles may require multiple connections. Refer to vehicle application guide.

4	BLACK/WHITE	ILLUMINATED ENTRY OUTPUT (-)

This wire provides a (-) 500mA output for 30 seconds when the system is disarmed capable of driving relays.

Locate the vehicle's dome light or pin switch wire.

Verification: This wire will register positive voltage or ground when the vehicle's dome light is turned ON.

5	BROWN/BLACK	HORN OUTPUT (-)

Locate the vehicle's horn wire.

Verification: This wire will register at positive voltage and register ground when the horn switch is pressed.

Connect the BROWN/BLACK wire to the vehicle's horn wire. This is a low current output, 500mA.

6	RED/WHITE	TRUNK RELEASE OUTPUT (-)

Locate the vehicle's trunk release wire at the trunk release switch.

Verification: This wire will register either positive voltage or ground when the trunk release is activated.

This is a low current output, 500mA and is configurable in option programming.

7	BLUE/BLACK	START STATUS / ACTIVE OUTPUT (-)

This wire provides a ground output when the remote start function is activated and remains until 4 seconds after the remote start is shutdown. If this wire will be used for multiple application's a 1 amp diode is required in-line with the stripe facing the control module.

8	PURPLE/WHITE	TACH INPUT

Locate the vehicle's ignition coil or fuel injector in the engine compartment.

Verification: Test using the following procedure:

1. Set voltmeter to AC VOLTS.
2. Attach positive lead of a volt meter to a constant 12-volt source.
3. Attach negative lead of a volt meter to the wire to be tested.
4. Start the engine.
5. Have someone press on the gas pedal slightly as you monitor the meter. If connected to the correct wire, the voltage reading will increase as the engine's RPM increases.

Connect the PURPLE/WHITE wire to the negative side of the vehicle ignition coil or fuel injector.

9	GRAY	HOOD PIN INPUT (-)

Install a Hood Pin Switch and connect to the GRAY wire. This connection is required for Remote Start.

Verification: This wire when connected will register ground when the vehicle's hood is opened.

Connect the GRAY wire to the hood pin.

NOTE: Be sure to loom the wire, and seal the grommet.

10	BROWN/RED	BRAKE INPUT (+)

Locate the vehicle's brake light wire at the brake pedal mounted switch. This connection is required for Remote Start.

Verification: This wire registers positive voltage when the brake pedal is pressed.

Connect the BROWN/RED wire to the vehicle's brake light wire.

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11	VIOLET/BLACK	AUX 1

This wire provides a (-) 500mA output capable of driving relays. For Control of optional accessories (i.e. Power Window/Sunroof, etc.).

To activate refer to the transmitter button configuration chart. Please refer to the selectable options for timing.

3 Pin Parking Light Harness

1	BLACK	GROUND

Connect the BLACK wire to a solid chassis ground point using a ring terminal and self tapping screw (not supplied). Scrape away paint from the grounding point to ensure a good connection. The recommended grounding point is a metal surface in the driver's side kick panel area.

NOTE: Do not ground the BLACK wire with any other vehicle components.

2	WHITE/RED	PARKING LIGHT INPUT

3	WHITE	PARKING LIGHT OUTPUT

Locate the parking light output wire at the vehicle's light switch.

Verification: This wire registers positive voltage when the parking lights are turned on.

Positive switching Parking Lights:

Connect the WHITE/RED wire to a 15 Amp max fused battery source.

Connect the WHITE wire to the parking light output wire.

Negative switching Parking Lights:

Connect the WHITE/RED wire to a good chassis ground.

Connect the WHITE wire to the parking light output wire.

6 Pin Start Harness

1	PURPLE	STARTER OUTPUT (+)

Locate the vehicle starter wire.

Verification: This wire registers voltage *only* when the key is turned to the START position.

Verification:
The starter wire registers voltage when the key is turned to the START position.

Connect the PURPLE wire to the vehicle starter wire.

2	RED	BATTERY 12V (+)

Locate 1 of the vehicle's constant 12 Volt battery wires at the ignition switch.

Verification: This wire will register (+) voltage in all positions of the ignition switch.

Connect the RED wire to the constant 12 Volt battery wire.

NOTE: Remove all fuses until all connections are made.

3	ORANGE	ACCESSORY 1 (+)

Locate the vehicle's accessory wire at the ignition switch.

Verification: This wire registers voltage when the key is turned to ACC (Accessory) and the ON (or RUN) position. The voltage drops out when the key is turned to the START (or CRANK) position.

Connect the ORANGE wire to the vehicle's accessory wire.

4	PINK/WHITE	IGNITION 2 (+)

Locate the vehicle's 2nd ignition wire at the ignition switch (if equipped).

Verification: This wire registers voltage when the key is turned to the ON (or RUN) position, but not the ACC (Accessory) position. The voltage does not drop out when the key is turned to the START (or CRANK) position.

Connect the PINK/WHITE wire to the vehicle's ignition 2 wire.

Programmable output: IGN, ACC, Start.

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5	RED/WHITE	BATTERY 12V (+)

Locate 1 of the vehicle's constant 12 Volt battery wires at the ignition switch.

Verification: This wire will register (+) voltage in all positions of the ignition switch.

Connect the RED/WHITE wire to the constant 12 Volt battery wire.

NOTE: Remove all fuses until all connections are made.

6	PINK	IGNITION 1 (+)

Locate the vehicle's ignition wire at the ignition switch.

Verification: This wire registers voltage when the key is turned to the ON (or RUN) position. The voltage does not drop out when the key is turned to the START (or CRANK) position.

Connect the PINK wire to the vehicle's Ignition wire.

This wire is also used for Ignition 1 Output.

4 Pin Alternate Harness

1	BLACK/YELLOW	PULSE DURING CRANK (-)

Locate the vehicle's second starter (crank) wire at the ignition switch. (if equipped)

Verification: This wire registers voltage only in the start (crank) position of the ignition switch.

Connect the BLACK/YELLOW wire as shown in the diagram below. Use an SPDT relay (not supplied).

This output is configurable in option programming.

2	GREEN/WHITE	PULSE AFTER SHUTDOWN (-)

This wire will supply a (-) 500mA pulse after the remote start shuts down. This is typically used to re-lock the vehicle's doors if they unlock upon remote start shutdown. It can also be used to pulse a door pin-switch wire to prevent the vehicle's accessories from remaining on after remote start shutdown.

This output is configurable in option programming.

3	LT BLUE	FACTORY ARM / PULSE AFTER START (-)

This wire will supply a (-) 500mA pulse both upon arming the system and upon successful completion of the remote start activation sequence and is typically used to re-lock the vehicle's doors upon remote start if necessary.

This output is configurable in option programming.

4	LT GREEN/BLACK	FACTORY DISARM / PULSE BEFORE START (-)

This wire will supply a (-) 500mA pulse both upon disarming the system and when the remote start feature is activated. Locate the factory perimeter alarm disarm wire from the key cylinder inside the drivers door.

Verification: This wire registers ground if the key is turned to the unlock position in the driver's door cylinder.

This output is configurable in option programming.

2 Pin Door Lock Harness

1	BLUE	UNLOCK (-)

2	GREEN	LOCK (-)

The door lock / unlock outputs are designed to control several different types of systems which may require additional parts. Please review the wire and location chart to see which type of door lock system is in your vehicle. The most common types are shown in the following diagrams.

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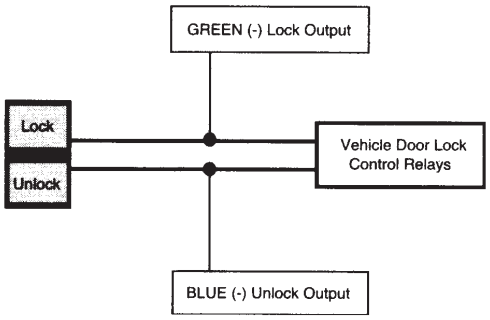
Negative Switching Locks

All Door Lock and Unlock: Locate the lock / unlock wire at the vehicle's lock / unlock switch.

Verification: These wires will register ground when the Lock and Unlock switches are activated.

Connect the GREEN and BLUE wires shown in the diagram below.

Negative Locks:



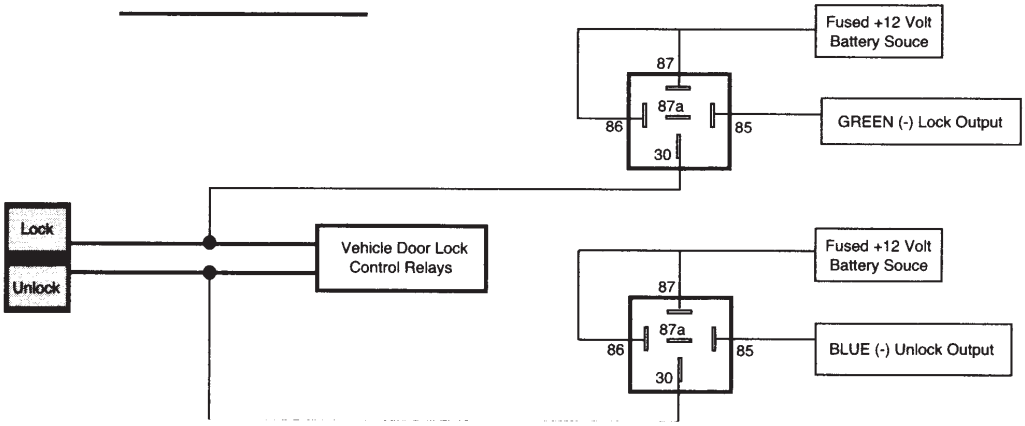
Positive Switching Locks

All Door Lock and Unlock: Locate the lock / unlock wire at the vehicle's lock / unlock switch.

Verification: These wires will register positive voltage when the Lock and Unlock switches are activated.

Connect the GREEN and BLUE wires shown in the diagram below.

Positive Locks:



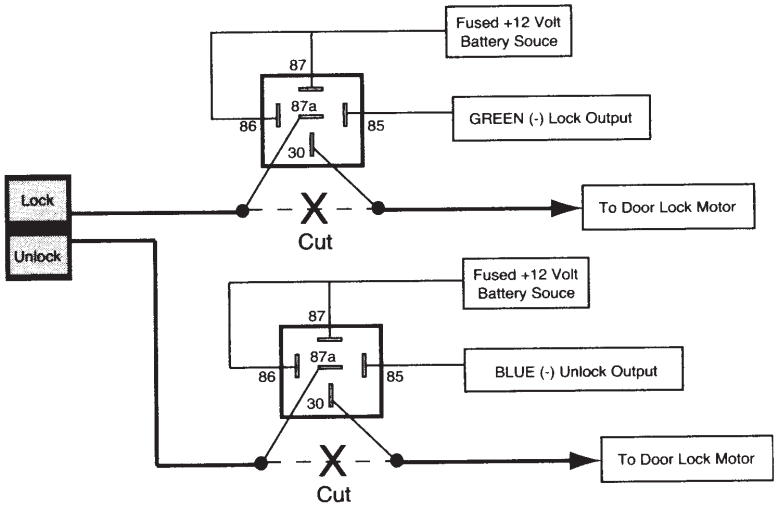
Reverse Polarity Locks (5-Wire Door locks)

All Door Lock and Unlock: Locate the lock / unlock wire at the vehicle's lock / unlock switch.

Verification: These wires will rest at ground and register positive voltage when the Lock and Unlock switches are activated.

Connect the GREEN and BLUE or BLUE/GREEN wires shown in the diagram below using (2) SPDT relays (not supplied).

Reverse Polarity Locks:



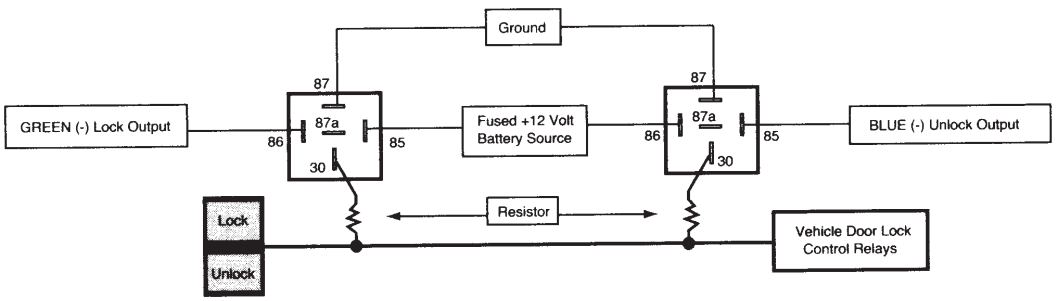
Negative Multiplexed Locks

All Door Lock and Unlock: Locate the lock / unlock wire at the vehicle's lock / unlock switch.

Verification: This wire will show variable ground when the switch is activated. Please consult the wire and location chart for specific resistor values for your vehicle.

Connect the GREEN and BLUE or BLUE/GREEN wires shown in the diagram below using (2) SPDT relays (not supplied).

Multiplex Locks:



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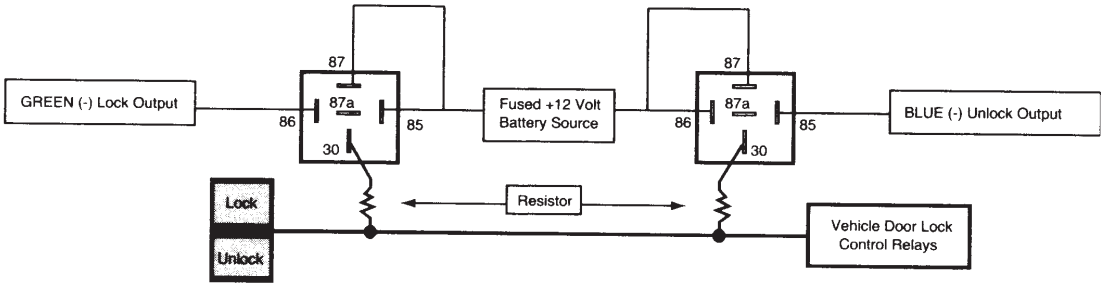
Positive Multiplexed Locks

All Door Lock and Unlock: Locate the lock / unlock wire at the vehicle's lock / unlock switch.

Verification: This wire will show variable positive voltage when the switch is activated. Please consult the wire and location chart for specific resistor values for your vehicle.

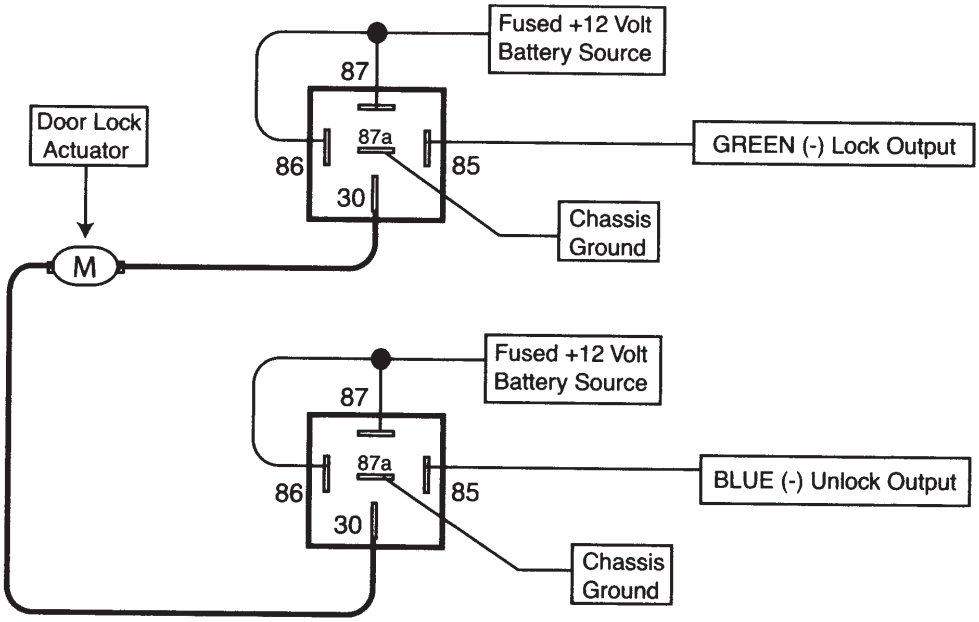
Connect the GREEN and BLUE or BLUE/GREEN wires shown in the diagram below using (2) SPDT relays (not supplied).

Multiplex Locks:



Adding Aftermarket Actuators

After installing aftermarket actuators, (not supplied). Connect the GREEN and BLUE wires shown in the diagram below using (2) SPDT relays (not supplied).



Additional Ports

Antenna / LED / Programming Port

Mount the supplied antenna/receiver to a clear spot on the vehicle's windshield that will not block the driver's vision. A good location is usually high on the windshield near the rear view mirror. Be careful not to mount the antenna/receiver on any metallic window film, as this will effect system range. Route the antenna/receiver cable to the control module and plug into the antenna port.

Data Bus Interface Port

This 4 pin port is used for Flashlogic Door Lock and Transponder Databus Interfaces to communicate with the vehicle's Databus. When using the DBI port to control the Flashlogic Door Lock and Transponder Interface modules the following options may be available. Please refer to the D2D (Data to Data) function list available per vehicle on the tech service web site.

Tach Input	Brake Safety Shut Down
Trunk/Hatch Open	Diesel Glow Plug Input
Door Lock Control	Passlock / Passkey Interface (GM Only)
Dome Light Supervision	Transponder Interface Activation
Factory Alarm Arm / Disarm	Manual Arm / Disarm Inputs (factory keyless controls system)

Telematic Interface Port

This 4 pin port is used for Telematic Interface accessories, such as CarLink, which can control some of the following features.

Door Lock Control	Trunk Release
Sliding Doors	AUX Output
Car Find	Remote Start

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Set Up & Programming

Transmitter Programming - Feature Bank 1

1. Turn the ignition ON.
2. Press and hold the valet/override button.
3. Within 10 seconds the system will chirp (3) three times.
4. Press 1 button of each transmitter you wish to program.
5. The system will respond with 1 chirp for each accepted transmitter.
6. Pressing the override button at anytime during programming will advance to the next bank.

NOTE: The system will exit transmitter programming after 15 seconds of inactivity.

NOTE: This system has 1 button programming which programs all channels of the system.

NOTE: The system will hold up to 4 transmitters in memory, programming a 5th transmitter will erase the oldest transmitter in memory.

NOTE: This system has PTN - Programmed Transmitter Notification. Each time the ignition is turned ON, the LED will flash the number of transmitters programmed to the system.

Manual Feature Programming - Feature Bank 2 - 5

1. Turn the ignition ON.
2. Press and hold the valet/override button.
3. Within 10 seconds the system will chirp (3) three times.
4. Use the valet/override button to advance through each option bank. For feature programming advance to Feature Bank 2, 3, 4 or 5, which is (4) four, (5) five, (6) six and (7) seven chirps.
5. Use the transmitter button to scroll through the selections in each feature bank, the system will chirp to match the feature number.
6. Press the transmitter button to change the desired feature. The LED will flash indicating the changed feature.

Defaulting All Features: Pressing the button anytime while in any of the feature banks will default all features and return you to feature bank 2 - 4 chirps.

NOTE: The system will remain in feature programming mode as long as the ignition is on, there is no time limit. To exit programming turn the IGNITION OFF.

Refer to transmitter programming.

	Feature Bank 2 - *4 Chirps* **Security Control**	**1 LED Flash**	**2 LED Flash**	**3 LED Flash**	**4 LED Flash**	**5 LED Flash**	**6 LED Flash**
1	Silent Choice	ON	OFF				
	Feature 2 - 8: N/A	**N/A**					
9	DBI Port Protocol	**DBI Protocol**	ADS Protocol				

	Feature Bank 3 - *5 Chirps* **Output Control**	**1 LED Flash**	**2 LED Flash**	**3 LED Flash**	**4 LED Flash**	**5 LED Flash**	**6 LED Flash**
1	Extended Lock Pulse	**1 Second**	3.5 Seconds	1 Second Lock, Double Pulse Unlock	30 Second Lock, Double Pulse Unlock	Double Pulse Lock, 1 Second Unlock	
2	Factory Disarm Lt Green / Black	**Factory Disarm**	2nd Unlock	Factory Disarm / Start Status			
	NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.						
3	Ignition Controlled Locks	**OFF**	Lock and Unlock	Lock Only	Unlock Only		
4	Trunk Output Timing Red / White Output	**1 Second Pulse**	10 Seconds	20 Seconds	Latched until IGN ON	Latched ON until Button Press	
5	Horn Output Timing	**16mS**	10mS	30mS	40mS	50mS	
6	Real Panic	**ON**	OFF				
7	AUX 1 Violet / Black Output	**Push and Hold**	Latched	Latched until IGN ON	Dome Light Output	Defrost Output Single Pulse	Defrost Output Latched 5 Min

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	Feature Bank 4 - *6 Chirps* Remote Start Control	1 LED Flash	2 LED Flash	3 LED Flash	4 LED Flash	5 LED Flash	6 LED Flash
1	RF Start Chirp	ON	OFF				
2	Run Time	15 Minutes	5 Minutes	10 Minutes	20 Minutes	45 Minutes	60 Minutes
3	Running Lights	Steady	Flashing				
4	Tach Mode	Tach	Tachless (Crank Average / Voltage)	Hybrid (Crank Average / NO Voltage)	DBI Port		
5	Voltage Level	High	Low				
6	Crank Time	1.0 Seconds	0.8 Seconds	1.5 Seconds	2.0 Seconds	4.0 Seconds	
7	Crank Averaging / Crank Time	Averaging	Preset Time				
8	Gas / Diesel	Gas	10 Second Delay	15 Second Delay	20 Second Delay	45 Second Delay	
9	Single / Double Press Start	Double Press	Single Press				
10	IGN 2 Output	Ignition 2	Accessory	Start / Crank			
11	2 or 3 Hour Start	NA					
12	Turbo Timer	NA					
13	Transmission Mode	Automatic	Manual				

	Feature Bank 5 - *7 Chirps* 4 Pin Alternate Output Control	1 LED Flash	2 LED Flash	3 LED Flash	4 LED Flash	5 LED Flash	6 LED Flash
1	Lt Green / Black Output	Pulse Before Start / During Unlock	Ground While Running	Ignition	Accessory	Pulse During Crank	
	NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.						
2	Lt Blue Output	Pulse After Start / During Lock	Ground While Running	Ignition	Accessory	Pulse During Crank	
3	Green / White Output	Pulse After Shutdown	Ground While Running	Ignition	Accessory	Pulse During Crank	
4	Black / Yellow Output	Pulse During Crank	Ground While Running	Ignition	Accessory		

NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.

Tach Programming

The unit will not operate unless a tach signal is programmed or the tachless option is turned ON. If an attempt is made to start the vehicle via the remote start without first programming tach, the unit will flash the parking lights 7 times indicating tach has not been learned and stored. If the tach rate is not properly programmed to the specific vehicle, the unit may not realize that the vehicle is running in certain instances and reengage the starter motor.

The Remote Start unit will learn the tach rate of most vehicle's single coil, multiple coil packs, or single injector. To learn tach:

1. Turn the ignition key to the ON position.
2. Press and release the valet/override button 3 times.
3. Immediately turn the ignition key OFF.
4. Press and hold the valet/override button, then start the vehicle using the key.
5. When the unit senses the tach signal, the parking lights will begin to flash.
6. Allow the vehicle to settle to a normal idle speed.
7. Release the valet/program push-button switch. 1 long chirp and the parking lights will turn on for 2 seconds, indicating that the learned tach signal is stored and the unit has exited tach learn mode.

NOTE: If the unit fails to learn tach rate due to an improper tach connection or a poor tach source, the parking lights will not flash. To correct this situation, locate and connect the PURPLE/WHITE wire to the proper tach signal, and then repeat the tach learn routine.

Smart Tachless Mode

Smart Tachless Mode is available only if a tach signal has never been learned to the system and when activated will automatically change the Tach Mode feature in option programming to Tachless without the need to enter the feature programming mode.

1. Activate the remote start. The parking lights should begin flashing 7 times indicating no tach signal has been learned.
2. Within the 7 flash time period, press and hold the ∩ button.
3. The system will chirp 1 time indicating the system is now in tachless mode.

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Feature Descriptions

Feature Bank 2 - Security

1 - Silent Choice: Controls the normal arm/disarm chirps of the security system.

ON - Silent arming/disarming upon first press of lock/unlock, pressing lock/unlock a second time will activate the arm/disarm chirps respectively. The system will only sound the arm/disarm chirps upon a second press of the lock/unlock buttons.

OFF - normal arm/disarm chirps upon the first press of lock/unlock.

2 - 8 Not available on this model.

9 - DBI Port Protocol: Determines the protocol type in which the DBI port uses to interface with external modules.

DBI Protocol

ADS Protocol

Feature Bank 3 - Output Control

1 - Extended Lock Pulse: Controls the timing of the BLUE and GREEN lock output wires.

1 Second - Single 1 second lock pulse, single 1 second unlock pulse.

3.5 Seconds - Single 3.5 second lock pulse, single 3.5 second unlock pulse.

1 Second Lock, Double Pulse Unlock - Single 1 second lock pulse, double 1 second unlock pulse.

30 Second Lock, Double Pulse Unlock - Single 30 second lock pulse, double 1 second unlock pulse.

Double Pulse Lock, 1 Second Unlock - Double 1 second lock pulse, single 1 second unlock pulse.

2 - Factory Disarm: Controls the timing of the LT. GREEN/BLACK factory disarm output.

Factory Disarm - Single 1 second pulse with unlock and remote start activation.

2nd Unlock - Same output as unlock with 2nd press of unlock.

Start Status - Single 1 second pulse with unlock and continuous (-) output during the remote start cycle.

NOTE: On this model the Lt Green / Black Output wire can be configured in Bank 3 or Bank 5. Any changes to this feature in Bank 5 will override changes made in Bank 3.

3 - Ignition Controlled Locks: Control of door locks when the ignition is cycled ON or OFF.

OFF - Door locks not activated by ignition.

Lock and Unlock - Doors lock when ignition is turned on and unlock when ignition is turned off.

Lock Only - Doors lock when ignition is turned on only.

Unlock Only Doors unlock when ignition is turned off only.

4 - Trunk Output Timing - Red/White Output: Controls the output timing/type of the RED/WHITE output.

1 Second Pulse - 1 second pulse output.

10 Second - Continuous output for 10 seconds.

20 Seconds - Continuous output for 20 seconds.

Latched until IGN ON - Continuous output until the vehicle's ignition is turned ON.

Latched ON until Button Press - Continuous output until the activation button is pressed again.

5 - Horn Output Timing: Control the minimum horn pulse time in milli seconds, some vehicle will require a longer pulse to activate the factory horn.

16mS 10mS 30mS 40mS 50mS

6 - Real Panic: Controls the panic out when triggered from the transmitter.

ON - Randomized horn honks when panic is triggered.

OFF - Standard pattern horn honks when panic is triggered.

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7 - AUX 1: Controls the VIOLET/BLACK AUX 1 output activation type and timing.

Push and Hold - Output is continuously active until transmitter button is released.

Latched - Output stays active until button is pressed again.

Latched until IGN ON - Output stays active until the ignition is turned on.

Dome Light Output - Output used for illuminated entry and is not controlled by the AUX 1 function of the transmitter.

Defrost Output Single Pulse - Single 1 second pulse after start

Defrost Output Latched 5 Minutes - 5 minute continuous output after remote start.

Feature Bank 4 - Remote Start Control

1 - RF Start Chirp: Turns remote start activation confirmation chirps ON or OFF.

2 - Run Time: Controls the time in minutes that the vehicle will stay running under control of the remote start until the system times out. The system may also be shut down at any time by use of the transmitter or system shutdowns.

3 - Running Lights: Controls the WHITE parking light output wire during remote start.

Steady - Parking lights constant during the remote start cycle.

Flashing - Parking lights flash at a slow pace during the remote start cycle.

4 - Tach Mode: Determines how the system monitors the engine running during remote start.

Tach - Hard wired directly to the tach wire of the vehicle to monitor AC voltage.

Tachless (Crank Average/Voltage) - Determines crank time by averaging the last 8 times the vehicle was started with the key and then monitors the change in voltage after remote start.

Hybrid (Crank Average / No Voltage) - Determines crank time by averaging the last 8 times the vehicle was started with the key.

DBI Port - Monitors the vehicle's tach rate through an interface module connected to the DBI port.

5 - Voltage Level: The voltage variance for remote start when set to tachless. (see tach mode)

HIGH - The variance in battery voltage from before the remote start is activated to after the engine is running must be greater than 0.5 volts.

LOW - The variance in battery voltage from before the remote start is activated to after the engine is running may be less than 0.5 volts.

6 - Crank Time: Preset output times for the PURPLE starter wire.

1 Second 0.8 Seconds 1.5 Seconds 2 Seconds 4 Seconds

7 - Crank Average / Crank Time: The length of time in which the remote start will crank the vehicle's starter.

Crank Average - Determines crank time by averaging the last 8 times the vehicle was started with the key.

Preset Time - Preset starter output time. (see crank time)

8 - Gas / Diesel: Selects engine type and delay time for the starter output wire during remote start activation.

Gas - Gasoline engine, no delay for the starter output wire.

10 Second Delay - Diesel engine, delays the starter output wire for 10 seconds after the ignition has been powered up by the remote start.

15 Second Delay - Diesel engine, delays the starter output wire for 15 seconds after the ignition has been powered up by the remote start.

20 Second Delay - Diesel engine, delays the starter output wire for 20 seconds after the ignition has been powered up by the remote start.

45 Second Delay - Diesel engine, delays the starter output wire for 45 seconds after the ignition has been powered up by the remote start.

9 - Single / Double Pulse Start: Switches the remote start activation between a single or double press from the transmitter.

10 - IGN 2 Output: Programmable high current output.

Ignition 2 - Ignition output during remote start.

Accessory - Accessory output during remote start.

Start / Crank - Crank output during remote start.

11 - 2 or 3 Hour Start: Not available on this model.

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12 - Turbo Timer: Not available on this model.

13 - Transmission Mode: Select the type of remote start activation based on the vehicle's transmission type.

Automatic - For use with automatic transmission vehicles. Standard remote start operation.

Manual - For use with manual transmission vehicles. Remote start ready mode must be set upon exit of vehicle to enable remote start.

Feature Bank 5 - 4 Pin Alternate Output Control

1 - Black/Yellow Output : Controls the BLACK/YELLOW output activation type and timing.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

2 - Green/White Output : Controls the GREEN/WHITE output activation type and timing.

Pulse After Shutdown - 1 second pulse after the remote start has shutdown.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

4 - Lt Green/Black Output : Controls the LT GREEN/BLACK output activation type and timing.

Pulse before Start / During Unlock - 1 second pulse when remote start is activated. Also a 1 second pulse when unlock is pressed.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

3 - Lt Blue Output : Controls the LT BLUE output activation type and timing.

Pulse After Start / During Lock - 1 second pulse after the remote start sequence and has confirmed the vehicle is running. Also a 1 second pulse when unlock is pressed.

Ground While Running - Continuous output for the entire remote start sequence until after the vehicle shuts down.

Ignition - Output becomes active with the same timing as the ignition output and does not drop out during crank.

Accessory - Output becomes active with the same timing as the accessory output, drops out during crank.

Pulse During Crank - Output becomes active with the same timing as the starter output wire, during crank only.

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Transmitter Button Functions

1 Way Transmitter	Lock	Unlock	Car Find / Panic	Start	Operation Method
Lock	X				Press and Release
Unlock		X			Press and Release
Trunk		X			Push and Hold (3 Sec)
Car Finder			X		Press and Release
Panic			X		Push and Hold (3 Sec)
Remote Start				X	Press and Release (1 or 2 times depending on selectable option)
Remote Start Shut Down				X	Push and Hold (3 Sec)
Run Time Extention				X	Press and Release 4 times.
Daily Start Timer	X			X	Press Lock + Start
AUX 1	X	X			Push and Hold (3 Sec)

Remote Start Shutdown Diagnostics

If the remote start shuts down or fails to start, the parking lights will flash one of the patterns below indicating the shutdown input.

To manually enter diagnostics and view the last shutdown, turn the ignition ON and press and release the button.

LED FLASHES	SHUTDOWN ZONE
3 Flashes	Hood Input Brake Input
4 Flashes	Remote Start Valet Mode
5 Flashes	Manual Transmission Mode not set (manual transmission models only)
7 Flashes	Tach not learned / Crank Average not learned

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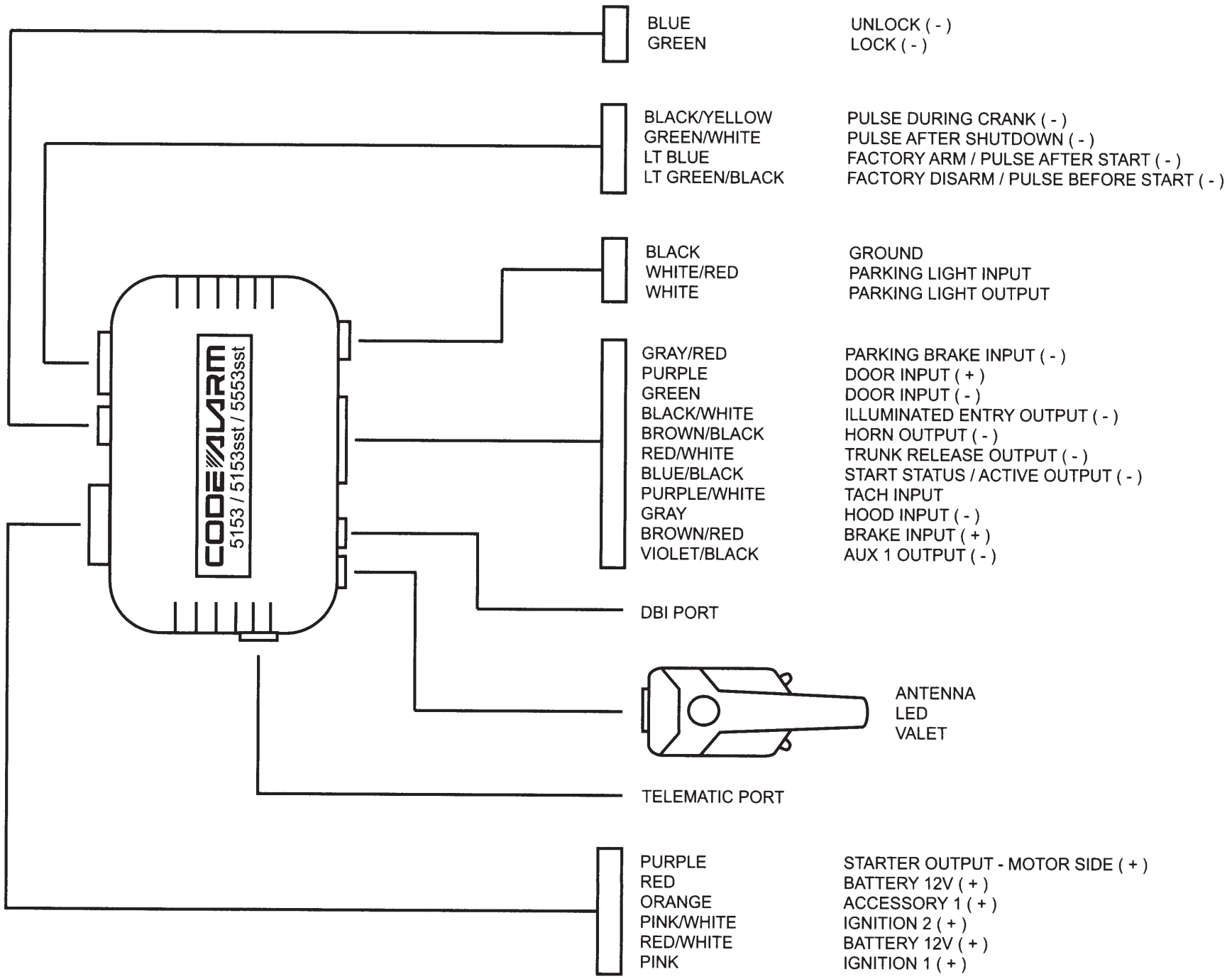
BLUE
GREEN
UNLOCK (-)
LOCK (-)
BLACK/YELLOW
GREEN/WHITE
LT BLUE
LT GREEN/BLACK
PULSE DURING CRANK (-)
PULSE AFTER SHUTDOWN (-)
FACTORY ARM / PULSE AFTER START (-)
FACTORY DISARM / PULSE BEFORE START (-)
BLACK
WHITE/RED
WHITE
GROUND
PARKING LIGHT INPUT
PARKING LIGHT OUTPUT
CODE ALARM
5153 / 5153sst / 5553sst
GRAY/RED
PURPLE
GREEN
BLACK/WHITE
BROWN/BLACK
RED/WHITE
BLUE/BLACK
PURPLE/WHITE
GRAY
BROWN/RED
VIOLET/BLACK
PARKING BRAKE INPUT (-)
DOOR INPUT (+)
DOOR INPUT (-)
ILLUMINATED ENTRY OUTPUT (-)
HORN OUTPUT (-)
TRUNK RELEASE OUTPUT (-)
START STATUS / ACTIVE OUTPUT (-)
TACH INPUT
HOOD INPUT (-)
BRAKE INPUT (+)
AUX 1 OUTPUT (-)
DBI PORT
ANTENNA
LED
VALET
TELEMATIC PORT
PURPLE
RED
ORANGE
PINK/WHITE
RED/WHITE
PINK
STARTER OUTPUT - MOTOR SIDE (+)
BATTERY 12V (+)
ACCESSORY 1 (+)
IGNITION 2 (+)
BATTERY 12V (+)
IGNITION 1 (+)

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FCC COMPLIANCE

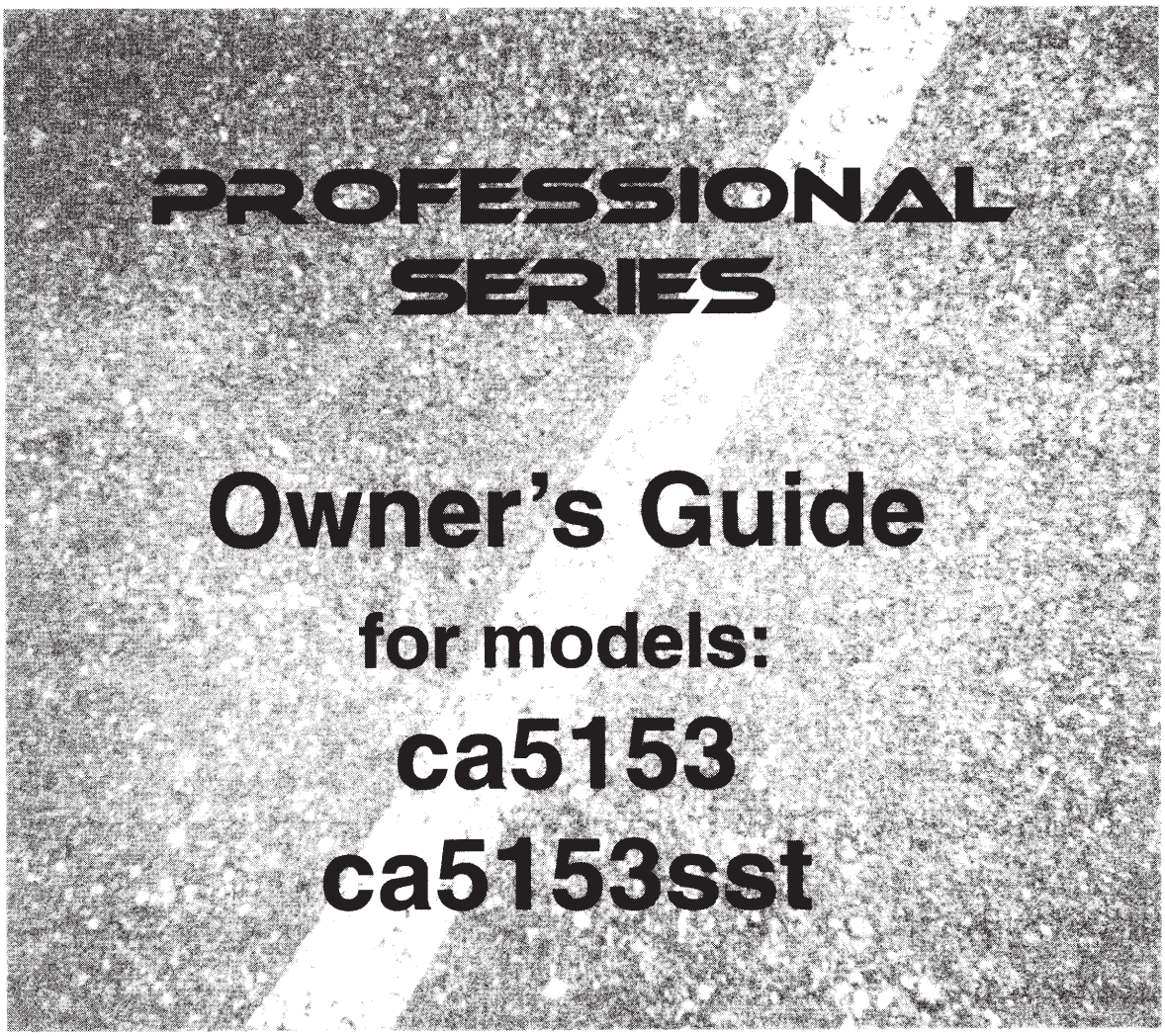
This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including any interference that may cause undesired operation.

Warning!

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CODE ALARM



Automatic / Manual Transmission

Remote Start and Keyless Entry System

IMPORTANT NOTE: The operation of the Security and Convenience System as described in this manual is applicable to most vehicles. However, due to the configuration of some vehicles, some functions AND/OR SAFETY PRECAUTIONS may not apply. Please see your installing dealer for more information.

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Using Your Remote Control

Using the Keyless Entry

The button is used to lock the vehicle's doors, the button is used to unlock the vehicle's doors. To lock or unlock the doors simply press and release the desired function button one time. For your convenience, the parking lights will flash once when the doors are unlocked and twice when the door are locked.

NOTE: The system is equipped with a feature called Silent Choice. If enabled, the system requires a second press of the or button to activate an audible locking/ unlocking response from the vehicle. If your system is set up for 2 step unlock, a third press of unlock will activate the audible response.

Two Stage Door Unlock (Optional)

If this feature is enabled on your system, pressing the button one time will unlock only the driver's door. Press again within three seconds to unlock the remaining doors.

Activating the Trunk Release Feature (Optional)

The button is used to open the trunk of the vehicle. To open the vehicle's trunk press and hold the button for 3 seconds.

Activating AUX 1 (Optional)

If this feature is enabled on your system, pressing the and buttons simultaneously will activate an optional feature. This feature can be programmed for a wide range of functions like power window or sunroof automation, please consult your installing dealer to determine the functionality of your system.

Using the Progressive Car Finder Feature

Press the button to locate your vehicle. The system will flash the parking lights and sound 5 times at low volume, increasing in volume each time the button is pressed.

Using the Personal Protection Alarm (Panic)

Press and hold the button for 3 seconds to activate the personal protection alarm. During panic mode, the normal function of the transmitter buttons will be suspended. The transmitter's and buttons can be used to lock and unlock the door (if the option is installed). To stop the alarm, press and hold the button on the transmitter again for 3 seconds. The system will automatically stop after 30 seconds.

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Programmed Transmitter Notification

As a security precaution each time the vehicle's ignition is turn on the status LED light with flash the number of transmitters programmed into the system. This helps to identify unauthorized transmitters from accessing your vehicle. If you believe an unauthorized transmitter has been programmed to your system, contact your installing dealer for assistance.

Valet Mode

Valet Mode is used to disable the system from remote starting. To enter or exit valet mode simply follow the 4 steps outlined below:

1. Turn the vehicle's ignition ON.
2. Push and hold the programming/valet button.
3. The LED will turn on solid when valet mode is active
4. Release the programming/valet button.

Eliminating Lock / Unlock Notification Chirps

System lock and unlock notification chirps can be toggled ON or OFF without entering the programming feature banks.

1. Turn the ignition ON then OFF.
2. Press and release the valet/programming button 3 times. The system will respond with 1 chirp for ON or 2 chirps for OFF.

Using Your Remote Starter

Remote Start Ready Mode must be enabled if your vehicle is equipped with a manual transmission.

Remote Start Ready Mode - Manual Transmission Vehicles Only

To activate the remote start function, the system must first be in Remote Start Ready Mode. Follow the steps below to enter remote start ready mode.

1. While the engine is running by the ignition key;
   a. Set the parking brake
   b. Place the transmission in neutral.
2. With your foot off the brake pedal, press and release the button 2 times within 2 seconds. The LED will flash 3 times and the parking lights will turn on to confirm the system has entered quick stop mode.
3. Remove the keys from the ignition, the vehicle will remain running in quick stop mode.
4. Exit the vehicle and close all vehicle doors.
5. Within 1 minute of step 1, press the button to lock the vehicle's doors. The vehicle will shutdown and sound 1 short chirp then 1 long chirp to confirm ready mode is set.

Cancelling Remote Start Ready Mode

The system will exit remote start ready mode if any of the following occur:

Open any door

Open the hood or trunk (if connected)

Press the brake

Release the parking brake

Turn the ignition ON

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Remote Starting Your Vehicle

To activate the remote start function, press and release the ◯ button 2 times within 2 seconds. The system will sound, the parking lights will flash 1 time and the system will check the vehicle to ensure it is safe to start. If all safety parameters are correct, the vehicle will start within 5 seconds. The vehicle's parking lights will turn on (or flash depending on system settings) as a visual indication that the vehicle has started and is running.

If your vehicle stalls or does not start, the system will pause 5 seconds, then try 2 more times to start the vehicle (a total of 3 attempts). The system will pause 5 seconds between each start attempt. If the vehicle does not start after the 3rd attempt, the system will abort the remote vehicle start process.

Note: Do not leave children or animals unattended in the vehicle when using the remote start feature.

Note: Manual transmission vehicles - Remote Start Ready Mode must be set.

Remote Start Shutdown

Press and hold the ◯ button for 3 seconds to turn the vehicle off.

Entering the Vehicle while it is Running via Remote Vehicle Start

1. Unlock the vehicle's doors.
2. Enter the vehicle. DO NOT PRESS THE BRAKE PEDAL!
3. Insert the key into the ignition switch and turn to the ON or RUN position.
4. Press the brake pedal. The remote vehicle starter will disengage and the vehicle will operate normally.

Preheating or Precooling the Vehicle's interior

Before exiting the vehicle, set the temperature controls to the desired setting and operation. After the system starts the vehicle, the heater or air conditioner will activate and heat or cool the vehicle's interior to your setting.

User Programmable Run Time / Run Time Extension

The system has the ability to allow the user to extend the time the vehicle will be running under control of the remote start. This will only extend the run time back to the current run time setting during the current remote start cycle. If your system is set to run 15 minutes and the time remaining is 4 minutes, extending the run time will reset the countdown timer to 15 minutes and your vehicle will continue to run for another 15 minutes. Follow the steps below to extend the vehicle's run time.

1. The remote start must already be active.
2. Press and release the ◯ button 4 times.
3. The system will chirp 1 time and flash the parking lights 4 times to confirm that the run time has been reset.

Using the "Quick-stop" Feature - Automatic Transmission Vehicles

If you want to make a short stop and keep your vehicle running (to keep the interior warm or cool), the quick-stop feature allows you to do this while keeping your vehicle secure and your keys with you.

To engage quick stop:

1. Stop the vehicle and place the transmission in PARK.
2. With your foot off the brake pedal, press and release the button 2 times within 2 seconds. The LED will flash 3 times to confirm quick stop is entered.
3. Remove the keys from the ignition and exit the vehicle. Press the button to lock the vehicle's doors if desired.

Note: Do not leave children or animals unattended in the vehicle when using the quick-stop feature.

Operating the Daily Start Timer

The system has the ability to start your vehicle based on a 24-hour countdown timer. This feature requires a two-part activation sequence. From the remote, pressing both the & buttons together will activate the 24 hour countdown timer (the vehicle will start 24 hours from this time). Next, When you are finished operating the vehicle for the day, perform the following steps to complete the process.

1. Turn the ignition ON/OFF (vehicle must be disarmed).
2. Within 10 seconds, while pressing the brake, press and release the button twice.
3. The vehicle will emit 2 chirps and flash the parking lights 4 times.

Remote Start Safety Features

For safety and security reasons, the system will shutdown or prevent the remote vehicle starter from activating if any of the following occur:

1. The vehicle hood is open.
2. The brake pedal is pressed prior to turning the ignition key to the ON position.
3. The engine is over-revved (tach checking only).
4. Valet mode is active.

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Transmitter Button Functions

1 Way Transmitter	Lock	Unlock	Car Find / Panic	Start	Operation Method
Lock	X				Press and Release
Unlock		X			Press and Release
Trunk		X			Push and Hold (3 Sec)
Car Finder			X		Press and Release
Panic			X		Push and Hold (3 Sec)
Remote Start				X	Press and Release (1 or 2 times depending on selectable option)
Remote Start Shut Down				X	Push and Hold (3 Sec)
Run Time Extention				X	Press and Release 4 times.
Daily Start Timer	X			X	Press Lock + Start
AUX 1	X	X			Push and Hold (3 Sec)

Replacing Remote Control Batteries

1-Way Remote Control (part # CATXMT)

The batteries (model CR2016) inside each remote control should last approximately 1 year under normal use. When the batteries become weak you will notice the remote control range (the distance from the vehicle the remote control will work) deteriorate and the small LED on the remote control will dim. To replace the remote control batteries:

1. Remove 3 screws and disassemble the halves of the remote control.
2. Remove the old batteries, observing the +/- symbols on the batteries and replace with new CR2016 batteries.
3. Reassemble the halves of the remote control and install the 3 screws.
4. Test operation of the remote control.

CODE ALARM

Code Systems, Inc. Limited Lifetime Warranty

Code Systems Inc. ("CODE") warrants to the ORIGINAL PURCHASER of this CODE vehicle security product (the "Product"), purchased from an authorized CODE dealer, that (except as provided below) should this Product under normal use and conditions, be proven defective in material or workmanship DURING THE LIFETIME OF THE VEHICLE IN WHICH IT WAS ORIGINALLY INSTALLED, such defect(s) will be repaired or replaced (at CODE's option) without charge for parts directly related to repairs of the defect(s).

Switches, indicator lights, and transmitter cases are similarly warranted to the original purchaser for a period of one (1) year from the date of purchase of the Product.

CODE accessories, sold separately, are covered by the applicable warranty accompanying the accessory.

This warranty is non-transferable, non-assignable and is voided when: (1) the Product is removed from the vehicle in which it was originally installed; or (2) the vehicle in which the Product was originally installed is transferred to another party.

This warranty does not apply to any product damaged by accident, physical or electrical abuse, improper installation, alteration, or use contrary to its intended function, fire, flood, or other natural acts.

In order for the Product to be repaired or replaced under the terms of this warranty, the defective Product must be returned to an authorized CODE dealer and accompanied by a copy of the retail sales receipt. The date of purchase and year, make and model of the vehicle in which the Product was originally installed must be clearly indicated on the sales receipt.

This warranty is exclusive and CODE MAKES NO OTHER WARRANTIES EXPRESSED OR IMPLIED. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. IN NO CASE SHALL CODE BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WHATSOEVER.

CODE does not warrant that the Product cannot be compromised or circumvented. THE EXTENT OF CODE'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT SHALL CODE'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY THE ORIGINAL PURCHASER OF THE PRODUCT WITHOUT INSTALLATION LABOR.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state

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This product is covered by one or more of the following U.S. Patents; Other Patents pending.
D407,034, D580,160, 5,132,660, 5,157,375, 5,193,141, 5,245,694, 5,315,285, 5,334,969
5,349,931, 5,357,560, 5,381,128, 5,412,371, 5,467,070, 5,469,141, 5,469,151, 5,506,568
5,532,670, 5,534,845, 5,563,576, 5,563,600, 5,572,185, 5,602,535, 5,614,883, 5,617,819
5,646,591, 5,650,774, 5,656,868, 5,673,017, 5,656,997, 5,712,638, 5,783,988, 5,783,989
5,798,711, 5,805,056, 5,819,568, 5,828,316, 5,838,255, 5,850,173, 5,850,174, 5,855,050
5,872,519, 5,898,391, 5,900,806, 5,905,431, 5,907,195, 5,914,667, 5,945,936, 5,952,933
5,990,786, 6,028,732, 6,028,505, 6,040,636, 6,043,734, 6,087,996, 6,093,979, 6,140,914
6,184,779, 6,218,740, 6,259,169, 6,285,296, 6,288,635, 6,317,034, 6,452,483, 6,452,484
6,462,648, 6,573,838, 6,697,719, 6,700,479, 6,781,507, 6,828,901, 6,982,631, 7,030,739
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7,332,998, 7,443,285, 7,463,135, 7,483,783, 7,519,400, 7,532,959, 7,616,099, 7,646,285
7,653,463, 7,962,260

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FCC COMPLIANCE

This device complies with Part 15 of the FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including any interference that may cause undesired operation.

Warning!

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WARNING

THIS VEHICLE IS EQUIPPED WITH A REMOTE CONTROLLED CAR STARTER

BEFORE SERVICING THIS VEHICLE, REMOVE THE MAIN POWER FUSE (RED WIRE) TO THE CAR STARTER OR DISCONNECT THE VEHICLE BATTERY.

LBL0675